

SOFT TRANSITION CONVERTER

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Abstract of the Disclosure

The present invention is a circuit and method for reducing switching and reverse recovery losses in the output rectifiers while creating zero voltage switching conditions for the primary switchers. There are described two output configurations, one employing a soft commutation inductor element a bridge rectifier and a output filter capacitor, the second using a soft commutation inductor element a rectification-filtering bridge composed by ^{Two} ~~two~~ capacitors and two capacitors. Both secondary circuits can be driven by three primary circuits. A first circuit is a full bridge with phase shift control, and a second circuit is a half bridge topology with an additional bidirectional switch which achieves two goals, on to get soft switching commutation across all the primary switches, the second to create the right waveforms in the secondary suitable with the claims in this invention. The third topology is a phase shifted two transistors forward. The circuits claimed in this invention can provide soft commutation across the primary switching elements and secondary rectifier means, clamping the voltage across the rectifiers to the output voltage eliminating the need for snubbers circuits both in primary and the secondary section.